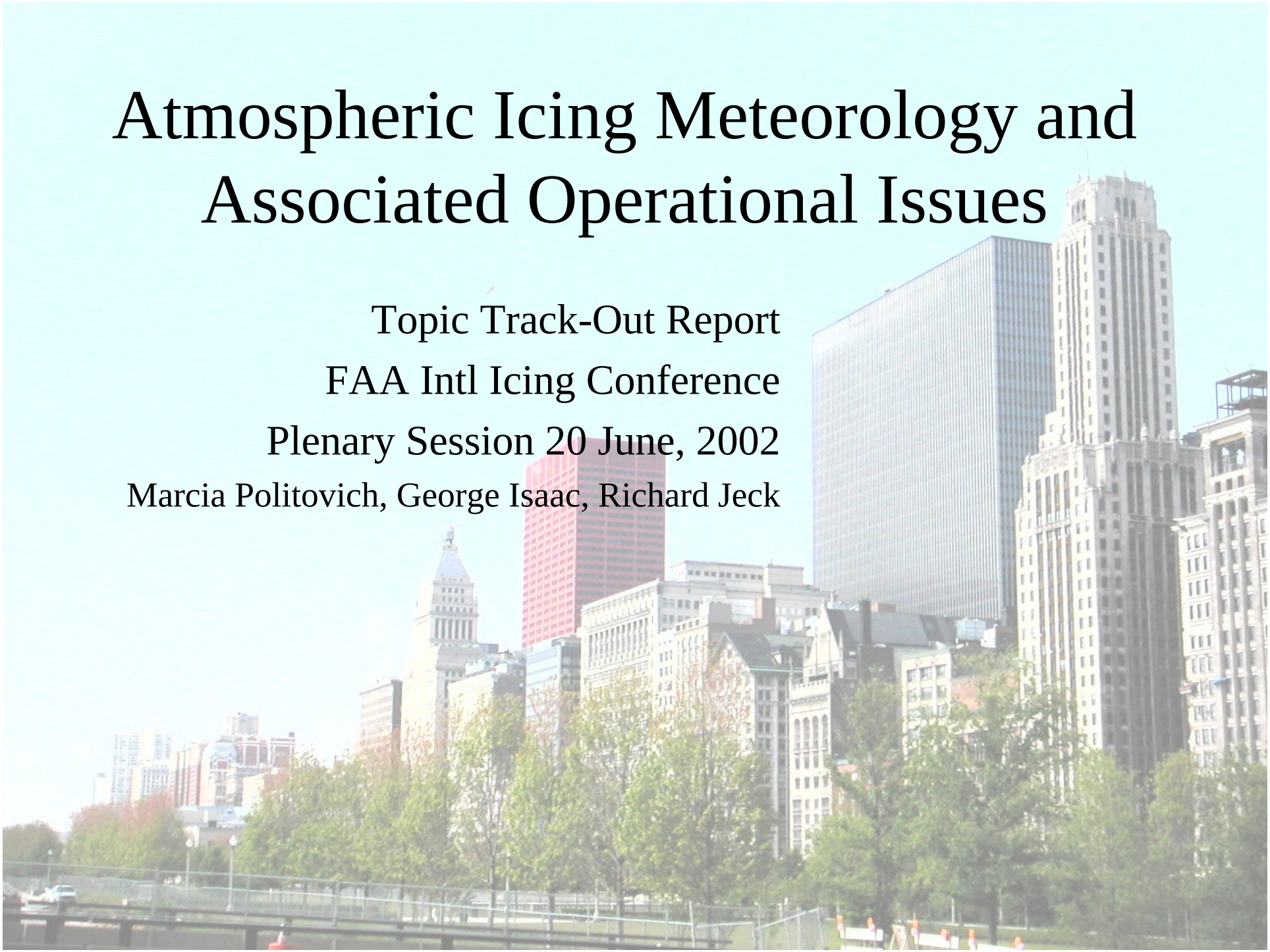
Atmospheric Icing Meteorology and Associated Operational Issues

Topic Track-Out Report

FAA Intl Icing Conference

Plenary Session 20 June, 2002

Marcia Politovich, George Isaac, Richard Jeck



Session Review

- Diagnosis and Forecast
- Airborne and Remote Detection
- Characterization Methods, Standards, and Software Tools
- Instrumentation and Data Processing

Recommendations

- Encourage intercomparisons and collaborations on forecast training, development and verification
- Conduct a workshop on methods for natural icing certification trials: instrumentation and data processing
- Plan a shoot-out on remote sensing capabilities in ’06-’07
- Coordinate technology transfer procedures
- Devise a meteorologically-based icing severity definition
- Assess completeness of SLD database

Encourage intercomparisons and collaborations on forecast training, development and verification

- Focus efforts
- ADWICE and SIGMA cover Europe – many countries
  - Questions about use
- CIP covers part of Canada but relies on US data sets
  - Obvious collaboration opportunity
  - ***SuperCIP*** – CONUS, Canada, Alaska
- Upgraded operational models (e.g., RUC and Eta in US, GEM in Canada) include liquid water content (LWC) but
  - How good is it?
  - Needs verification
- Plan forecast exercises in conjunction with field experiments

Conduct workshop on methods for natural icing certification trials: instrumentation and data processing

- Current procedures are (perhaps needlessly) complicated and expensive
- There is a need for references
- Current materials and knowledge are not up-to-date
- Must be very careful interpreting data sets
- Current instrument suites are not well suited for important icing conditions
  - SLD
  - Mixed-phase
  - Drops (or ice crystals) in the 50-100 μm diameter range

Plan a shoot-out on remote sensing capabilities in ’06-’07

- NIRSS, GRIDS, SPolKa and AVISA are in very early stages
- Common data set for test and evaluation
- What are system capabilities and limitations?

Coordinate technology transfer procedures

- Research is great, but how do we get these products out to users?
- AWTT in USA, similar systems in other countries?
- First step may be to coordinate US/Canadian procedures
- Effective information dissemination
  - Color schemes that make sense
  - "one stop shopping"
  - Tailored to user needs

Devise a meteorologically-based icing severity definition

- We need a meteorological definition of severity
  - –Forecasts, remote detection, pilots
  - –Must address what each of these groups has for data inputs

Assess completeness of SLD database

- In situ SLD characterization *and* climatology
- Geographic coverage is incomplete
- Are there significant differences we don't know about?

Summary

- This workshop has provided a focus for collaboration
  - "our fellow wizards"
  - the rest of the icing community
- Let's continue our good work
- Let's foster international cooperation
  - Engage SAE AC-9C, WWRP, AIRA, etc.

Summary